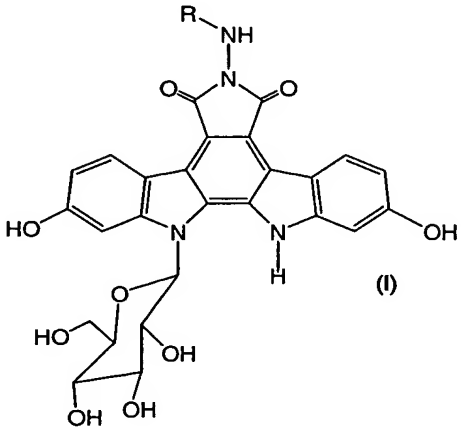
CLAIMS

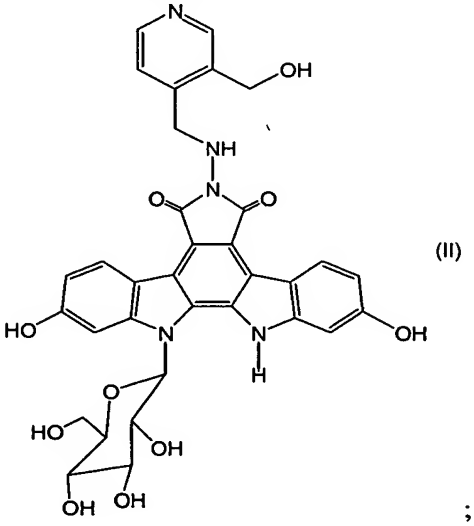
1. Crystalline 6-N-pyridylmethylamino-12,13-dihydro-12-β-D-glucopyranosyl -5H-indolo[2,3-a]pyrrolo[3,4-c]carbazole-5,7(6H)-dione that is a free base having the following formula (I):



(I)

wherein R is an unsubstituted pyridyl methyl group or a pyridyl methyl group substituted by a hydroxy methyl group,
or a pharmaceutically acceptable salt thereof or a solvate thereof.

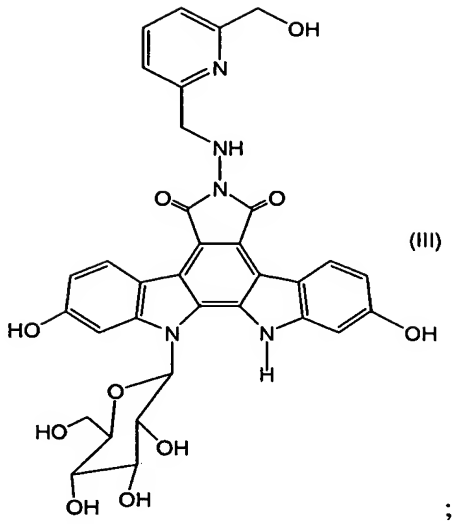
2. The crystalline free base according to Claim 1, a pharmaceutically acceptable salt thereof or a solvate thereof,
wherein the compound of formula (I) is represented by a compound of the following formula (II):



(II)

;

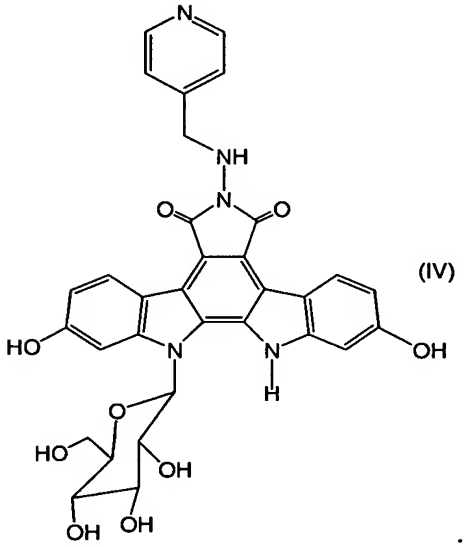
a compound of the following formula (III):



(III)

;

or a compound of the following formula (IV):



(IV)

3. A pharmaceutically acceptable salt of the crystalline free base according to Claim 1, wherein:

the compound of formula (I) is represented by a compound of formula (II) as defined in Claim 2 and the pharmaceutically acceptable salt is hydrochloride, sulfate salt, or methanesulfonate salt;

the compound of formula (I) is represented by a compound of formula (III) as defined in Claim 2 and the pharmaceutically acceptable salt is hydrochloride, sulfate salt, or methanesulfonate salt; or

the compound of formula (I) is represented by a compound of formula (IV) as defined in Claim 2 and the pharmaceutically acceptable salt is hydrochloride, sulfate salt, or methanesulfonate salt.

4. The solvate according to Claim 1, wherein the compound of formula (I) is represented by a compound of formula (II), formula (III), or formula (IV) as defined in Claim 2.

5. The solvate according to Claim 1 which is ethanol solvate,

wherein the compound of formula (I) is represented by a compound of formula (II) as defined in Claim 2 and the pharmaceutically acceptable salt is methanesulfonate salt.

6. A process for manufacturing the crystalline compound of formula (I) according to Claim 1 which comprises:

the step of adding to an amorphous compound of formula (I) an organic solvent solution optionally containing one to one hundred equivalent of the corresponding acid or an appropriate acetic acid so that a concentration of the solution amounts to from 50 mg/l to 1g/l;

the step of refluxing the resulting solution with heating;

if desired, the step of filtrating the resulting solution to remove an insoluble matter;

the step of evaporating the solvent from the resulting solution to condense;

the step of refluxing a suspension of the resulting solid with heating;

the step of cooling the resulting suspension to a temprerature ranging from 0 degree to 35 degree; and the step of isolating the resulting crystal.

7. A process for manufacturing the crystalline compound of formula (I) according to Claim 1 which comprises:

the step of suspending an amorphous compound of formula (I) with an organic solvent solution optionally containing one to one hundred equivalent of the corresponding acid or an appropriate acetic acid;

the step of stirring the resulting solution with heating from 40 degree to 130 degree;

the step of cooling the resulting suspension to a temperature ranging from 0 degree to 35 degree; and

the step of isolating the resulting crystal.

8. A process for manufacturing the crystalline compound of formula (I) according to Claim 1 which comprises:

the step of adding to an amorphous compound of formula (I) water or a solution containing one to one hundred equivalent of the corresponding acid;

the step of stirring the resulting solution with heating from 40 degree to 130 degree;

if desired, the step of filtrating the resulting solution to remove an insoluble matter;

the step of cooling the resulting solution to a temperature ranging 0 degree to 35 degree with stirring; and the step of isolating the resulting crystal.

9. A pharmaceutical composition comprising as an active ingredient the crystalline free base of formula (I) according to Claim 1, a pharmaceutically acceptable salt thereof , or a solvate thereof,

together with a pharmaceutically acceptable carrier or diluent.

10. An anti-tumor agent comprising as an active ingredient the crystalline free base of formula (I) according to Claim 1, a pharmaceutically acceptable salt thereof, or a solvate thereof, together with a pharmaceutically acceptable carrier or diluent.

11. An anti-tumor agent for injection using the crystalline free base of formula (I) according to Claim 1, a pharmaceutically acceptable salt thereof, or a solvate thereof

12. The anti-tumor agent for injection according to Claim 11, wherein the compound of formula (I) is represented by the compound of formula (II), formula (III), or formula (IV) of Claim 2.